the application of these gene-modified *tumor* cells for treatment of preexisting tumors. A number of improvements and modifications are already underway to overcome some of these problems.
DRUG DESCRIPTORS:
**cancer* vaccine--drug development--dv; **cd86* antigen--endogenous compound--ec; *cytokine; **tumor* antigen
MEDICAL DESCRIPTORS:
**cancer* *immunotherapy*; *major histocompatibility complex; *protein transport; *t lymphocyte; **tumor* immunity
SECTION HEADINGS:
016 *Cancer*
022 Human Genetics
026 Immunology, Serology and Transplantation
037 Drug Literature Index

14/3,K/7 (Item 6 from file: 73)
DIALOG(R)File 73:EMBASE

06551821 EMBASE No: 1996212396
B7-mediated costimulation and the immune response
Schultze J.; Nadler L.M.; Gribben J.G.
Division of Hematologic Malignancies, Dana Farber Cancer Institute, Department of Medicine,Boston, MA 02115 United States
Blood Reviews (BLOOD REV.) (United Kingdom) 1996, 10/2 (111-127)
CODEN: BLORE ISSN: 0268-960X
DOCUMENT TYPE: Journal; Review
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

...subsequent rechallenge. Recent evidence has demonstrated that a critical costimulatory signal is delivered by members of the B7 family. B7-1 (CD80) and B7-2 (*CD86*) provide costimulation through CD28, their ligand on the T cell. Dysregulation of expression of B7 may be implicated in the pathogenesis of autoimmune disease. In contrast, lack of expression of B7 on *tumor* cells may explain in part the lack of immune response against the majority of tumors. It may now be possible to exploit this pathway to...
DRUG DESCRIPTORS:
cd28 antigen--endogenous compound--ec; *cd86* antigen--endogenous compound --ec; cytokine--endogenous compound--ec; cytokine receptor--endogenous compound--ec; cytotoxic t lymphocyte antigen 4--endogenous compound--ec
MEDICAL DESCRIPTORS:
antigen presentation; antigen presenting cell; antigen recognition; autoimmunity; *cancer* immunology; *cancer* *immunotherapy*; clonal anergy; human; immunological tolerance; insulin dependent diabetes mellitus; multiple sclerosis; priority journal; *review*; rheumatoid arthritis; skin disease; t lymphocyte; etiology
SECTION HEADINGS:
016 *Cancer*
025 Hematology
026 Immunology, Serology and Transplantation
?ds

Set	Items	Description
S1	80	(COSTIMULATORY OR CO-STIMULATORY) AND (B7-2)
S2	19	S1 AND (TUMOR OR TUMOUR)
S3	4	S2 AND (GENE (W) (THERAPY OR TREATMENT))
S4	4	RD (unique items)
S5	2	S2 AND (IMMUNOTHERAPY)
S6	2	RD (unique items)
S7	19	RD S2 (unique items)
S8	0	S2 AND (IMMUNOGENECITY)
S9	283	(IMMUNOTHERAPY) AND (B7-2 OR CD86)
S10	212	S9 AND (CANCER OR TUMOR OR TUMOUR)
S11	13	S10 AND (GENE (W) THERAPY)

```
S12          11    RD (uniq   items)
S13           8    S10 AND (REVIEW)
S14           7    RD (unique items)
?logoff
       29apr01 10:47:53 User259876 Session D212.2
            $2.46    0.769 DialUnits File155
               $1.40  7 Type(s) in Format  3
            $1.40  7 Types
     $3.86  Estimated cost File155
            $6.68    1.192 DialUnits File5
              $37.95  23 Type(s) in Format  3
           $37.95  23 Types
    $44.63  Estimated cost File5
           $11.39    1.340 DialUnits File73
              $30.55  13 Type(s) in Format  3
           $30.55  13 Types
    $41.94  Estimated cost File73
            OneSearch, 3 files,  3.301 DialUnits FileOS
     $1.20  TYMNET
    $91.63  Estimated cost this search
    $92.05  Estimated total session cost   3.415 DialUnits


### Status: Signed Off. (24 minutes)
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### Status: Path 1 of [Dialog Information Services via Modem]

### Status: Initializing TCP/IP using (UseTelnetProto 1 ServiceID pto-dialog)
Trying 3106900061...Open

DIALOG INFORMATION SERVICES
PLEASE LOGON:
 ******** HHHHHHHH SSSSSSSS?
### Status: Signing onto Dialog
 ********
ENTER PASSWORD:
 ******** HHHHHHHH SSSSSSSS? ********
Welcome to DIALOG
### Status: Connected


Dialog level 00.12.12D

Last logoff:  25apr01 14:11:57
Logon file001 29apr01 10:23:57
           *** ANNOUNCEMENT ***
                  ***
NEW FILE RELEASED
***IBISWorld Market Research (File 753)
***Investext PDF Index (File 745)
***Daily and Sunday Telegraph (London) Papers (File 756)
***The Mirror Group Publications (United Kingdom) (File 757)
***Reuters Business Insight (File 759)

UPDATING RESUMED
***Extel Financial Cards from Primark (File 500)
***Books In Print (File 470)
***Extel News Cards from Primark (File 501)
                            ***
RELOADED
***Kompass Asia/Pacific (File 592)
***Kompass Central/Eastern Europe (File 593)
***Kompass Canada (File 594)

FILES REMOVED
***EconBase (File 565)

New pricing structure for Pharmaprojects (Files 128/928) from
April 1, 2001. Check Help News128 or Help News928 for further
information.

>>>Get immediate news with Dialog's First Release
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   broad spectrum of news wires.

     >>> Enter BEGIN HOMEBASE for Dialog Announcements <<<
     >>>    of new databases, price changes, etc.      <<<
                    ****
KWIC is set to 50.
HILIGHT set on as '*'
* * *             * * *

File   1:ERIC  1966-2001/Apr 17
       (c) format only 2001 The Dialog Corporation

      Set  Items  Description
```

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      ---  -----  -------
?b 155, 5, 73
       29apr01 10:24:16 User259876 Session D212.1
            $0.40    0.113 DialUnits File1
     $0.40  Estimated cost File1
     $0.02  TYMNET
     $0.42  Estimated cost this search
     $0.42  Estimated total session cost   0.113 DialUnits


SYSTEM:OS  - DIALOG OneSearch
  File 155:MEDLINE(R)  1966-2001/May W2
        (c) format only 2000 Dialog Corporation
*File 155: Medline has now updated. For further information
see Help News155.
  File   5:Biosis Previews(R)  1969-2001/Apr W4
        (c) 2001 BIOSIS
  File  73:EMBASE  1974-2001/Apr W4
        (c) 2001 Elsevier Science B.V.
*File  73: For information about Explode feature please
see Help News73.

      Set  Items  Description
      ---  -----  -----------
?s (costimulatory or co-stimulatory) and (B7-2)
           7503  COSTIMULATORY
              1  CO-STIMULATORY
            207  B7-2
      S1     80  (COSTIMULATORY OR CO-STIMULATORY) AND (B7-2)
?s s1 and (tumor or tumour)
             80  S1
        1355012  TUMOR
         175871  TUMOUR
      S2     19  S1 AND (TUMOR OR TUMOUR)
?s s2 and (gene (w) (therapy or treatment))
             19  S2
        1628282  GENE
        4122751  THERAPY
        3486766  TREATMENT
          44202  GENE(W)(THERAPY OR TREATMENT)
      S3      4  S2 AND (GENE (W) (THERAPY OR TREATMENT))
?rd
...completed examining records
      S4      4  RD (unique items)
?t s4/3,k/all

 4/3,K/1     (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2000 Dialog Corporation. All rts. reserv.

08167288   95007588
 Induction of antitumor immunity by recombinant vaccinia viruses
expressing B7-1 or B7-2 *costimulatory* molecules.
  Hodge JW; Abrams S; Schlom J; Kantor JA
  Laboratory of Tumor Immunology and Biology, National Cancer Institute,
NIH, Bethesda, Maryland 20892.
  Cancer research (UNITED STATES)  Nov 1 1994,  54 (21) p5552-5,  ISSN
0008-5472  Journal Code: CNF
  Languages: ENGLISH
  Document type: JOURNAL ARTICLE

 Induction of antitumor immunity by recombinant vaccinia viruses
expressing B7-1 or B7-2 *costimulatory* molecules.
  Activation of T cells requires at least two signals: an antigen-specific
signal delivered through the T-cell receptor and a *costimulatory* signal
mediated through molecules designated B7-1 and B7-2. Previous studies have
```

shown that introduction of B7-1 and B7-2 into tumors using

... low efficiency of infection of retroviral vectors and consequent manipulations of infected cells. Vaccinia virus thus represents an alternative vector for B7 gene expression in *tumor* cells. In this report we describe the construction and characterization of recombinant vaccinia viruses containing the murine B7-1 and B7-2 genes (designated rV...

... 4 h). Infection of murine carcinoma cells with low multiplicity of infection of wild-type vaccinia virus leads to the death of the host following *tumor* transplantation. In contrast, inoculation of rV-B7-1- or rV-B7-2-infected *tumor* cells into immunocompetent animals resulted in no *tumor* growth. These studies demonstrate the utility of recombinant vaccinia viruses to deliver B7 molecules to *tumor* cells for potential *gene* *therapy* and recombinant approaches to cancer immunotherapy.
...; Sequence; Cell Division; DNA, Complementary--Genetics--GE; DNA, Viral--Genetics--GE; Genetic Vectors; Immunocompetence; Mice; Mice, Inbred C57BL; Molecular Sequence Data; Neoplasm Transplantation; Recombination, Genetic; *Tumor* Cells, Cultured; Vaccinia Virus--Genetics--GE; Vaccinia Virus--Metabolism--ME
Gene Symbol: B7-1; *B7-2*

4/3,K/2 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11195142 BIOSIS NO.: 199799816287
Effective introduction of T cell *costimulatory* molecules into virus modified *tumor* cell vaccines by modification with bispecific antibodies.
AUTHOR: Haas Claudia; Schirrmacher Volker(a)
AUTHOR ADDRESS: (a)Deutsches Krebsforschungszentrum, Abt. 0710, Im Neuenheimer Feld 280, D-69120 Heidelberg**Germany
JOURNAL: International Journal of Oncology 11 (5):p951-957 1997
ISSN: 1019-6439
RECORD TYPE: Abstract
LANGUAGE: English

Effective introduction of T cell *costimulatory* molecules into virus modified *tumor* cell vaccines by modification with bispecific antibodies.

ABSTRACT: This report describes the generation of bispecific antibodies which bind with one arm to virus modified *tumor* cell vaccines and introduce with the other arm anti-murine CD28 T cell *costimulatory* molecules. This is an effective alternative to somatic *gene* *therapy* strategies using genes coding for ligands of CD28 such as CD80 (B7-1) or CD86 (B7-2). While these B7 molecules interact not only with CD28 but also with CLTA-4, thereby generating a negative signal, agonistic anti CD28 antibodies only bind to CD28 and therefore deliver only positive *costimulatory* signals. The new bispecific antibody (bsAb) HN times CD28 allows the introduction of anti-CD28 antibodies into the *tumor* cell vaccine ATV-NDV, an autologous *tumor* cell vaccine already modified by infection with Newcastle Disease Virus (NDV). The bsAb HN times CD28 attaches with its anti-HN binding, site to the NDV derived hemagglutinin-neuraminidase (HN) molecule which serves as a common foreign anchoring molecule in the vaccine. NDV infected *tumor* cells which were further modified with HN times CD28 on their cell surface (bs-vaccine), showed increased T cell stimulatory capacity in vitro. This was...

...syngeneic mice were injected with aggressive murine ESb lymphoma cells which were infected with NDV and further modified with the bsAb HN times CD28, delayed *tumor* development and prolonged survival was observed in comparison to respective controls.

...MAJOR CONCEPTS: *Tum[redacted] Biology
MISCELLANEOUS TERMS: ...*B7-2*...

...CD 28 T CELL *COSTIMULATORY* MOLECULE...
...*TUMOR* BIOLOGY

4/3,K/3 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10930231 BIOSIS NO.: 199799551376
Expression of *costimulatory* molecules B7-1 (CD80) and B7-2 (CD86) and human hepatocellular carcinoma.
AUTHOR: Tatsumi Tomohide; Takehara Tetsuo; Katayama Kazuhiro; Mochizuki Kiyoshi; Yamamoto Masato; Kanto Tatsuya; Sasaki Yutaka; Kasahara Akinori; Hayashi Norio(a)
AUTHOR ADDRESS: (a)First Dep. Med., Osaka Univ. Sch. Med., Yamadaoka 2-2, Suita, Osaka 565**Japan
JOURNAL: Hepatology 25 (5):p1108-1114 1997
ISSN: 0270-9139
RECORD TYPE: Abstract
LANGUAGE: English

Expression of *costimulatory* molecules B7-1 (CD80) and B7-2 (CD86) and human hepatocellular carcinoma.

ABSTRACT: Costimulation mediated by *costimulatory* molecules, such as B7-1 and B7-2, which are ligands for the CD28/cytolytic T lymphocyte associated antigen (CTLA)-4 counter-receptor, plays an...

...a plasmid containing human B7-1 complementary cDNA (cDNA), we were able to establish Hep3B cell lines strongly expressing B7-1. From mixed lymphocytes and *tumor* cultures analysis, the primary cytolytic activity against parental Hep3B cells could be induced effectively by B7-1-transfected Hep3B cells. These findings suggested that B7-1 gene transfer is the best way to induce strong expression of this molecule and this might be useful for inununo-*gene* *therapy* against human HCC.
MISCELLANEOUS TERMS: ...*B7-2*...

...*COSTIMULATORY* MOLECULE...

...IMMUNO-*GENE* *THERAPY*; ...

...*TUMOR* BIOLOGY

4/3,K/4 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10757861 BIOSIS NO.: 199799379006
Expression of *costimulatory* molecules: B7 and ICAM up-regulation after treatment with a suicide gene.
AUTHOR: Ramesh Rajagopal; Munshi Anupama; Abboud Camille N; Marrogi Aizen J ; Freeman Scott M(a)
AUTHOR ADDRESS: (a)Dep. Pathol. SL79, Tulane Univ. Med. Cent., 1430 Tulane Ave., New Orleans, LA 70118**USA
JOURNAL: Cancer Gene Therapy 3 (6):p373-384 1996
ISSN: 0929-1903
RECORD TYPE: Abstract
LANGUAGE: English

Expression of *costimulatory* molecules: B7 and ICAM up-regulation after treatment with a suicide gene.

ABSTRACT: The herpes simplex virus thymidine kinase gene (HSV-TK) in combination with ganciclovir (GCV), is currently being used in *gene* *therapy*-based clinical trials for cancer treatment. Its therapeutic effect is based on a "bystander effect" whereby HSV-TK gene-modified *tumor* cells are toxic to nearby unmodified *tumor* cells when exposed to the antiviral drug GCV. We have recently hypothesized that the in vivo mechanism of this bystander effect is due to alterations in the *tumor* microenvironment in response to release of cytokines and an infiltration of leukocytes after treatment with HSV-TK gene-modified *tumor* cells and GCV, which results in *tumor* regression. Expression of B7, a recently identified *costimulatory* molecule that is important for T-cell stimulation, has been shown to be modulated by stimulatory cytokines interferon-gamma, *tumor* necrosis factor-alpha, and inhibited by interleukin-10. In the present study, we investigated whether the cytokines released after HSV-TK and GCV treatment could induce the expression of the *costimulatory* molecules B7-1 and B7-2 and the adhesion molecule (ICAM)-1 in the *tumor*. Furthermore, we investigated whether this altered environment affected the antitumor properties of host lymphocytes. An in vitro model was developed to establish the effects of HSV-TK gene-modified *tumor* cells and GCV on *tumor* infiltrating cells. The murine macrophage cell line (IC21) was exposed to either supernatants or cell lysates collected from a mixture of HSV-TK-transduced (KBALB-STK) and non-transduced (KBALB) murine fibrosarcoma *tumor* cells previously exposed to GCV (experimental). Immunohistochemical analysis showed a significant expression (P lt .0001) of B7-1 and B7-2 post exposure of IC21...

...control lysate or supernatant remained unchanged for B7-1 and B7-2. In vivo analysis for B7-1 and B7-2 expression by immunohistochemistry in *tumor* tissues from experimental mice receiving HSV-TK gene-modified *tumor* cells and GCV treatment showed a significant expression of B7.1 (35%, P lt .0001) and B7.2 (38.2%, P lt .0001) on *tumor*-infiltrating mononuclear cells. In contrast, *tumor*-bearing control animals showed low levels of B7-2 expression (5.8%), whereas B7-1 was undetectable, as confirmed by reverse-transcriptase polymerase chain reaction. In addition, a significant up-regulation of ICAM expression (50%) on *tumor* tissues was observed in the experimental group (P = .0317) as compared with the control group (25%). Furthermore, T cells isolated from experimental mice showed a significant in vitro proliferative response (p = .0202) when exposed to syngeneic *tumor* cells as compared with the control group. These data demonstrated that the use of HSV-TK gene-modified *tumor* cells and GCV as a suicide gene in the treatment of an intraperitoneal *tumor* resulted in the expression of the B7 *costimulatory* molecules and ICAM-1 adhesion molecule and enhanced proliferative response of host T cells. These findings help to understand the mechanism of *tumor* cell killing in vivo using HSV-TK gene-modified *tumor* cells.
...MAJOR CONCEPTS: *Tumor* Biology
MISCELLANEOUS TERMS: ...*B7-2*...
...FIBROSARCOMA *TUMOR* CELL...

...HERPES SIMPLEX VIRUS THYMIDINE KINASE GENE-MODIFIED *TUMOR* CELL...

...SUICIDE *GENE* *THERAPY*; ...

...*TUMOR* BIOLOGY
?ds

Set	Items	Description
S1	80	(COSTIMULATORY OR CO-STIMULATORY) AND (B7-2)
S2	19	S1 AND (TUMOR OR TUMOUR)
S3	4	S2 AND (GENE (W) (THERAPY OR TREATMENT))
S4	4	RD (unique items)

?s s2 and (immunotherapy)
19 S2
81066 IMMUNOTHERAPY

S5 2 S2 AND ([redacted]MMUNOTHERAPY)
?rd
...completed examining records
S6 2 RD (unique items)
?t s6/3,k/all

6/3,K/1 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

08167288 95007588
Induction of antitumor immunity by recombinant vaccinia viruses expressing B7-1 or B7-2 *costimulatory* molecules.
Hodge JW; Abrams S; Schlom J; Kantor JA
Laboratory of Tumor Immunology and Biology, National Cancer Institute, NIH, Bethesda, Maryland 20892.
Cancer research (UNITED STATES) Nov 1 1994, 54 (21) p5552-5, ISSN 0008-5472 Journal Code: CNF
Languages: ENGLISH
Document type: JOURNAL ARTICLE

Induction of antitumor immunity by recombinant vaccinia viruses expressing B7-1 or B7-2 *costimulatory* molecules.
Activation of T cells requires at least two signals: an antigen-specific signal delivered through the T-cell receptor and a *costimulatory* signal mediated through molecules designated B7-1 and B7-2. Previous studies have shown that introduction of B7-1 and B7-2 into tumors using...

... low efficiency of infection of retroviral vectors and consequent manipulations of infected cells. Vaccinia virus thus represents an alternative vector for B7 gene expression in *tumor* cells. In this report we describe the construction and characterization of recombinant vaccinia viruses containing the murine B7-1 and B7-2 genes (designated rV...

... 4 h). Infection of murine carcinoma cells with low multiplicity of infection of wild-type vaccinia virus leads to the death of the host following *tumor* transplantation. In contrast, inoculation of rV-B7-1- or rV-B7-2-infected *tumor* cells into immunocompetent animals resulted in no *tumor* growth. These studies demonstrate the utility of recombinant vaccinia viruses to deliver B7 molecules to *tumor* cells for potential gene therapy and recombinant approaches to cancer *immunotherapy*.
...; Sequence; Cell Division; DNA, Complementary--Genetics--GE; DNA, Viral--Genetics--GE; Genetic Vectors; Immunocompetence; Mice; Mice, Inbred C57BL; Molecular Sequence Data; Neoplasm Transplantation; Recombination, Genetic; *Tumor* Cells, Cultured; Vaccinia Virus--Genetics--GE; Vaccinia Virus--Metabolism--ME
Gene Symbol: B7-1; *B7-2*

6/3,K/2 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12657758 BIOSIS NO.: 200000411260
B7-2-positive myeloma: Incidence, clinical characteristics, prognostic significance, and implications for *tumor* *immunotherapy*.
AUTHOR: Pope Belinda; Brown Ross D(a); Gibson John; Yuen Edna; Joshua Doug
AUTHOR ADDRESS: (a)Institute of Haematology, Royal Prince Alfred Hospital, Missenden Road, Camperdown, New South Wales, 2050**Australia
JOURNAL: Blood 96 (4):p1274-1279 August 15, 2000
MEDIUM: print
ISSN: 0006-4971
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

B7-2-positive myeloma: Incidence, clinical characteristics, prognostic significance, and implications for *tumor* *immunotherapy*.

ABSTRACT: Deficiencies in B7:CD28 costimulation are considered to be one of the major causes of the failure to generate a *tumor*-specific immune response. Up-regulating the expression of the B7 molecules on malignant B cells has been shown to stimulate cytotoxic T cells. Plasma cells from patients with myeloma express a *tumor*-specific idiotype but lack CD80 (B7-1) and have a variable expression of CD86 (B7-2). This study has identified the incidence and clinical significance...

...at diagnosis (n = 35) and was associated with a significantly shorter survival (median, 28 versus 57 months; chi2 = 4.6; P = .03) and a higher *tumor* load (patients with more than 50% bone marrow plasma cells, 47% versus 6%; chi2 = 7.2; P = .005). CD86 expression was highest on immature and...

...on plasma cells. Thus, B7-2-positive myeloma consists of a subgroup of patients with a relatively poor prognosis, and CD40LT may be useful in *immunotherapy* protocols because it up-regulates CD80 expression on malignant plasma cells without inducing B7-2-positive myeloma.

DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: *B7-2*...

...*costimulatory* molecule
MISCELLANEOUS TERMS: *tumor* immunopathology

?ds

Set	Items	Description
S1	80	(COSTIMULATORY OR CO-STIMULATORY) AND (B7-2)
S2	19	S1 AND (TUMOR OR TUMOUR)
S3	4	S2 AND (GENE (W) (THERAPY OR TREATMENT))
S4	4	RD (unique items)
S5	2	S2 AND (IMMUNOTHERAPY)
S6	2	RD (unique items)

?rd s2
...completed examining records
S7 19 RD S2 (unique items)
?t s7/3,k/all

7/3,K/1 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

08167288 95007588
Induction of antitumor immunity by recombinant vaccinia viruses expressing B7-1 or B7-2 *costimulatory* molecules.
Hodge JW; Abrams S; Schlom J; Kantor JA
Laboratory of Tumor Immunology and Biology, National Cancer Institute, NIH, Bethesda, Maryland 20892.
Cancer research (UNITED STATES) Nov 1 1994, 54 (21) p5552-5, ISSN 0008-5472 Journal Code: CNF
Languages: ENGLISH
Document type: JOURNAL ARTICLE

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... low efficiency of infection of retroviral vectors and consequent manipulations of infected cells. Vaccinia virus thus represents an alternative vector for B7 gene expression in *tumor* cells. In this report

we describe the construction and characterization of recombinant vaccinia viruses containing the murine B7-1 and B7-2 genes (designated rV...

... 4 h). Infection of murine carcinoma cells with low multiplicity of infection of wild-type vaccinia virus leads to the death of the host following *tumor* transplantation. In contrast, inoculation of rV-B7-1- or rV-B7-2-infected *tumor* cells into immunocompetent animals resulted in no *tumor* growth. These studies demonstrate the utility of recombinant vaccinia viruses to deliver B7 molecules to *tumor* cells for potential gene therapy and recombinant approaches to cancer immunotherapy.
...; Sequence; Cell Division; DNA, Complementary--Genetics--GE; DNA, Viral--Genetics--GE; Genetic Vectors; Immunocompetence; Mice; Mice, Inbred C57BL; Molecular Sequence Data; Neoplasm Transplantation; Recombination, Genetic; *Tumor* Cells, Cultured; Vaccinia Virus--Genetics--GE; Vaccinia Virus--Metabolism--ME
Gene Symbol: B7-1; *B7-2*

7/3,K/2 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12843443 BIOSIS NO.: 200100050592
Selection and characterization of MUC1-specific CD8+ T cells from MUC1 transgenic mice immunized with dendritic-carcinoma fusion cells.
AUTHOR: Gong J(a); Apostolopoulos V; Chen D; Chen H; Koido S; Gendler S J; McKenzie I F; Kufe D
AUTHOR ADDRESS: (a)Dana-Farber Cancer Institute, 44 Binney Street, Boston, MA, 02115**USA
JOURNAL: Immunology 101 (3):p316-324 November, 2000
MEDIUM: print
ISSN: 0019-2805
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

...ABSTRACT: MUC1.Tg) are tolerant to immunization with MUC1 antigen. Recent studies, however, have demonstrated that immunization of MUC1.Tg mice with fusions of MUC1-positive *tumour* and dendritic cells (FC/MUC1) reverses MUC1 unresponsiveness and results in rejection of established MUC1-positive pulmonary metastases. Here we demonstrate that lymph node cells...
...results indicate that immunization of MUC1.Tg mice with FC/MUC1 reverses immunological unresponsiveness to MUC1 by presentation of MUC1 peptides in the presence of *costimulatory* signals and generates MHC-restricted MUC1-specific CD8+ T cells.
DESCRIPTORS:
...MAJOR CONCEPTS: *Tumor* Biology
CHEMICALS & BIOCHEMICALS: ...*B7-2*

7/3,K/3 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12720372 BIOSIS NO.: 200000473874
Lipopolysaccharide-like molecules derived from Wolbachia endobacteria of the filaria Onchocerca volvulus are candidate mediators in the sequence of inflammatory and antiinflammatory responses of human monocytes.
AUTHOR: Brattig Norbert W(a); Rathjens Ulf; Ernst Martin; Geisinger Frank; Renz Alfons; Tischendorf Frank W
AUTHOR ADDRESS: (a)Department of Clinical Chemistry, Bernhard Nocht Institute for Tropical Medicine, Bernhard-Nocht-Strasse 74, D-20359, Hamburg**Germany
JOURNAL: Microbes and Infection 2 (10):p1147-1157 August, 2000

MEDIUM: print
ISSN: 1286-4579
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

...ABSTRACT: early production of TNF-alpha by exposed monocytes was followed by the production of IL-10 and a reduced expression of HLA-DR and the *costimulatory* molecules B7-1 and B7-2, while other adhesion receptors remained unaffected. Downregulation of the functional membrane receptors failed to occur after treatment of the...
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: ...*B7-2*...

...TNF-alpha {*tumor* necrosis factor-alpha

7/3,K/4 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12657758 BIOSIS NO.: 200000411260
B7-2-positive myeloma: Incidence, clinical characteristics, prognostic significance, and implications for *tumor* immunotherapy.
AUTHOR: Pope Belinda; Brown Ross D(a); Gibson John; Yuen Edna; Joshua Doug
AUTHOR ADDRESS: (a)Institute of Haematology, Royal Prince Alfred Hospital, Missenden Road, Camperdown, New South Wales, 2050**Australia
JOURNAL: Blood 96 (4):p1274-1279 August 15, 2000
MEDIUM: print
ISSN: 0006-4971
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

B7-2-positive myeloma: Incidence, clinical characteristics, prognostic significance, and implications for *tumor* immunotherapy.

ABSTRACT: Deficiencies in B7:CD28 costimulation are considered to be one of the major causes of the failure to generate a *tumor*-specific immune response. Up-regulating the expression of the B7 molecules on malignant B cells has been shown to stimulate cytotoxic T cells. Plasma cells from patients with myeloma express a *tumor*-specific idiotype but lack CD80 (B7-1) and have a variable expression of CD86 (B7-2). This study has identified the incidence and clinical significance...

...at diagnosis (n = 35) and was associated with a significantly shorter survival (median, 28 versus 57 months; chi2 = 4.6; P = .03) and a higher *tumor* load (patients with more than 50% bone marrow plasma cells, 47% versus 6%; chi2 = 7.2; P = .005). CD86 expression was highest on immature and...
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: *B7-2*...

...*costimulatory* molecule
MISCELLANEOUS TERMS: *tumor* immunopathology

7/3,K/5 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12563502 BIOSIS NO.: 200000317004
Lymphocytes and macrophages as possible prognostic factors in human colorectal cancer.

AUTHOR: Ohtani Haruo
AUTHOR ADDRESS: (a)Department of Pathology, Tohoku University School of Medicine, 2-1 Seiryo-cho, Aoba-ku, Sendai, 980-8575**Japan
JOURNAL: Acta Histochemica et Cytochemica 33 (2):p63-66 2000
MEDIUM: print
ISSN: 0044-5991
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

ABSTRACT: *Tumor* markers are defined as antigens specifically expressed in *tumor* cells or tissues that can be utilized for pathological diagnosis. Here we propose that host immune and/or inflammatory cells could be used as *tumor* markers because they could predict the biological malignancy of tumors. First we showed that CD8+ T cells infiltrated within cancer cell nests in colorectal cancer...
...as revealed by both uni- and multivariate analyses; the more CD8+ cells, the better the survival rate. This was also a clinicopathological demonstration of anti-*tumor* immunity. Next we showed that macrophages along the invasive margin could function to suppress hematogenous metastasis because these cells were smaller in number in cases with simultaneous or metachronous hematogenous metastasis. These macrophages expressed *costimulatory* molecules B7-2, HLA-DR, CD40, and CD11c, sharing a phenotype with dendritic cells, representative antigen presenting cells. This suggests their involvement in *tumor* immunity. Our data indicate that lymphocytes and macrophages could influence the biological malignancy of colorectal cancer.
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: *B7-2*...
MISCELLANEOUS TERMS: anti-*tumor* immunity

7/3,K/6 (Item 5 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12122257 BIOSIS NO.: 199900417106
Functional CD40 ligand is expressed on epidermal Langerhans cells.
AUTHOR: Salgado Claudio Guedes; Nakamura Koichiro(a); Sugaya Makoto; Tada Yayoi; Asahina Akihiko; Koyama Yoh-ichi; Irie Shinkichi; Tamaki Kunihiko
AUTHOR ADDRESS: (a)Faculty of Medicine, Department of Dermatology, University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo, 113**Japan
JOURNAL: Journal of Leukocyte Biology 66 (2):p281-285 Aug., 1999
ISSN: 0741-5400
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

...ABSTRACT: expressing antigen-presenting cells (APC) that comprise 1-3% of total epidermal cells (EC). LC express high levels of MHC class II antigen and augment *costimulatory* molecules such as B7-1, B7-2 during culture. In a previous report, using purified murine LC, we showed that freshly prepared LC (fLC) do not express CD40, whereas cLC express CD40. *Tumor* necrosis factor alpha (TNF-alpha) enhanced CD40 expression on LC during culture. We examined the expression of CD40L on LC and found that both fLC...
...inhibition of B7-2 expression during culture. These results indicate that CD40L is expressed on cLC, and that CD40L on LC modulates the expression of *costimulatory* molecules such as B7-1 and B7-2 on LC.
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: ...*tumor* necrosis factor-alpha...

...*costimulatory* molecule...

...*B7-2*...

...*costimulatory* molecule

7/3,K/7 (Item 6 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11958232 BIOSIS NO.: 199900204341
B7-2 expressed on EL4 lymphoma suppresses antitumor immunity by an interleukin 4-dependent mechanism.
AUTHOR: Stremmel C; Greenfield E A; Howard E; Freeman G J; Kuchroo V K(a)
AUTHOR ADDRESS: (a)Center for Neurological Diseases, Department of Neurology, Brigham and Women's Hospital, Harvard**USA
JOURNAL: Journal of Experimental Medicine 189 (6):p919-930 March 15, 1999
ISSN: 0022-1007
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
SUMMARY LANGUAGE: English

ABSTRACT: For T cells to become functionally activated they require at least two signals. The B7 *costimulatory* molecules B7-1 and B7-2 provide the "second signal" pivotal for T cell activation. In this report, we studied the relative roles of B7-1 and B7-2 molecules in the induction of antitumor immunity to the T cell thymoma, EL4. We generated EL4 *tumor* cells that expressed B7-1, B7-2, and B7-1+B7-2 by transfecting murine cDNAs. Our results demonstrate that EL4-B7-1 cells are...
...grow in the mice. A B7-1- and B7-2-EL4 double transfectant was generated by introducing B7-2 cDNA into the EL4-B7-1 *tumor* line that regressed in vivo. The EL4-B7-1+B7-2 double transfectant was not rejected when implanted into syngeneic mice but progressively grew to...

...on the EL4 cells were functional. In vivo, treatment of mice implanted with double-transfected EL4 cells with anti-B7-2 monoclonal antibody resulted in *tumor* rejection. Furthermore, the EL4-B7-2 and EL4-B7-1+B7-2 cells, but not the wild-type EL4 cells, were rejected in interleukin 4...
DESCRIPTORS:
...MAJOR CONCEPTS: *Tumor* Biology
CHEMICALS & BIOCHEMICALS: ...*B7-2*...

...B7 *costimulatory* molecule

7/3,K/8 (Item 7 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11731109 BIOSIS NO.: 199800512840
Expression of B7 co-stimulatory molecules by B16 melanoma results in a natural killer cell-dependent local anti-*tumour* response, but induces T-cell-dependent systemic immunity only against B7-expressing tumours.
AUTHOR: Chong H; Hutchinson G; Hart I R; Vile R G(a)
AUTHOR ADDRESS: (a)Lab. Molecular Therapy, Imperial Cancer Res., Fund Molecular Oncology Unit, Hammersmith Hosp., D**UK
JOURNAL: British Journal of Cancer 78 (8):p1043-1050 Oct., 1998
ISSN: 0007-0920
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

Expression of B7 co-stimulatory molecules by B16 melanoma results in a natural killer cell-dependent local anti-*tumour* response, but induces T-cell-dependent systemic immunity only against B7-expressing tumours.

ABSTRACT: In an attempt to enhance the anti-*tumour* immune response, the co-stimulatory molecules B7-1 or B7-2 were expressed on the surface of B16 melanoma cells. B7-expressing tumours grew more...
...and athymic T call immunodeficient nude mice. The delay in growth of B7-expressing tumours was dependent on natural killer (NK) cells, as reductions in *tumour* growth rates were minimized in mice depleted of NK cells. Systemic immunity to B16 melanoma was examined by vaccination with irradiated *tumour* cells. Inoculation with irradiated B16 B7-1 cells failed to protect against a subsequent challenge with live parental B16 cells. but conferred partial protection against challenge with live B16 B7-1 cells. In contrast to the local anti-*tumour* reaction, this protective response was dependent on T cells. The results presented here reveal some of the mechanisms involved in the in vivo response to a poorly immunogenic *tumour* modified to express co-stimulatory molecules.
DESCRIPTORS:
...MAJOR CONCEPTS: *Tumor* Biology
CHEMICALS & BIOCHEMICALS: ...cell surface expression, *costimulatory* molecule...

...*B7-2*...

...cell surface expression, *costimulatory* molecule
MISCELLANEOUS TERMS: anti-*tumor* immune response...

7/3,K/9 (Item 8 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11668740 BIOSIS NO.: 199800450471
Drug resistance results in alterations in expression of immune recognition molecules and failure to express Fas (CD95).
AUTHOR: Bhushan A; Kupperman J L; Stone J E; Kimberly P J; Calman N S; Hacker M P; Birge R B; Tritton T R; Newell M K(a)
AUTHOR ADDRESS: (a)Div. Immunobiology, Dep. Med., Burlington, VT 05405**USA
JOURNAL: Immunology and Cell Biology 76 (4):p350-356 Aug., 1998
ISSN: 0818-9641
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

...ABSTRACT: methotrexate (MTX)/cisplatin-resistant L1210/DDP cells. L1210 cells express cell-surface Fas, while the L1210/DDP cells express no cell-surface Fas. Expression of *costimulatory* molecules B7-1/B7-2 and Fas is increased on L1210 cells, but not L1210/DDP, in the presence of methotrexate or trimetrexate (TMTX). Therefore...
DESCRIPTORS:
...MAJOR CONCEPTS: *Tumor* Biology
CHEMICALS & BIOCHEMICALS: ...*B7-2*

7/3,K/10 (Item 9 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11654105 BIOSIS NO.: 199800435836
Expression of *costimulatory* molecules, B7-1 and B7-2 on human gastric carcinoma.
AUTHOR: Koyama Shohei(a); Maruyama Tsunehiko; Adachi Shinya; Nozue Mutsumi
AUTHOR ADDRESS: (a)Dep. Intern. Med., Inst. Clin. Med., Univ. Tsukuba, Tsukuba-City, Ibaraki 305-8575**Japan
JOURNAL: Journal of Cancer Research and Clinical Oncology 124 (7):p383-388 July, 1998
ISSN: 0171-5216

DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

Expression of *costimulatory* molecules, B7-1 and B7-2 on human gastric carcinoma.

ABSTRACT: Costimulation of T cells via B7-1 and B7-2 molecules on a *tumor* has been shown to be important for eliciting cell-mediated antitumor immunity. We studied the surface expression of B7-1 and B7-2 in 24...

...despite showing higher levels of B7-2 expression. Thus, it seems likely that decreased or deleted expression of B7-1 correlates with the grade of *tumor* differentiation, *tumor* progression and metastasis. These results suggest that the B7-1 molecule on the gastric carcinoma bearing CD80+CD86+ is abrogated during *tumor* invasion and/or metastasis, and the *tumor* finally acquires the CD80-CD86+ phenotype. Consequently, inadequate B7-1 costimulation may contribute to the escape of tumors from destruction by the host's immune...
DESCRIPTORS:
...MAJOR CONCEPTS: *Tumor* Biology
CHEMICALS & BIOCHEMICALS: ...*costimulatory* molecule, expression...

...*B7-2*...

...*costimulatory* molecule, expression

7/3,K/11 (Item 10 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11325641 BIOSIS NO.: 199800106973
B7-2 enhances sensitivity to LAK-cell mediated lysis of a transitional cell carcinoma cell line.
AUTHOR: Pettit S J; Ali S; Griffiths L; Neal D E; Kirby J A
AUTHOR ADDRESS: Surgical Immunobiol. Group, Dep. Surgery, Med. Sch., Univ. Newcastle-upon-Tyne NE2 4HH**UK
JOURNAL: Immunology 92 (SUPPL. 1):p13 Dec., 1997
CONFERENCE/MEETING: 5th Annual Congress of the British Society for Immunology Brighton, England, UK December 2-5, 1997
SPONSOR: British Society for Immunology
ISSN: 0019-2805
RECORD TYPE: Citation
LANGUAGE: English

DESCRIPTORS:
...MAJOR CONCEPTS: *Tumor* Biology
CHEMICALS & BIOCHEMICALS: ...*costimulatory* molecule...

...*B7-2*

7/3,K/12 (Item 11 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11195142 BIOSIS NO.: 199799816287
Effective introduction of T cell *costimulatory* molecules into virus modified *tumor* cell vaccines by modification with bispecific antibodies.
AUTHOR: Haas Claudia; Schirrmacher Volker(a)
AUTHOR ADDRESS: (a)Deutsches Krebsforschungszentrum, Abt. 0710, Im Neuenheimer Feld 280, D-69120 Heidelberg**Germany
JOURNAL: International Journal of Oncology 11 (5):p951-957 1997
ISSN: 1019-6439

RECORD TYPE: Abstract
LANGUAGE: English

Effective introduction of T cell *costimulatory* molecules into virus modified *tumor* cell vaccines by modification with bispecific antibodies.

ABSTRACT: This report describes the generation of bispecific antibodies which bind with one arm to virus modified *tumor* cell vaccines and introduce with the other arm anti-murine CD28 T cell *costimulatory* molecules. This is an effective alternative to somatic gene therapy strategies using genes coding for ligands of CD28 such as CD80 (B7-1) or CD86...

...with CD28 but also with CLTA-4, thereby generating a negative signal, agonistic anti CD28 antibodies only bind to CD28 and therefore deliver only positive *costimulatory* signals. The new bispecific antibody (bsAb) HN times CD28 allows the introduction of anti-CD28 antibodies into the *tumor* cell vaccine ATV-NDV, an autologous *tumor* cell vaccine already modified by infection with Newcastle Disease Virus (NDV). The bsAb HN times CD28 attaches with its anti-HN binding, site to the NDV derived hemagglutinin-neuraminidase (HN) molecule which serves as a common foreign anchoring molecule in the vaccine. NDV infected *tumor* cells which were further modified with HN times CD28 on their cell surface (bs-vaccine), showed increased T cell stimulatory capacity in vitro. This was...

...syngeneic mice were injected with aggressive murine ESb lymphoma cells which were infected with NDV and further modified with the bsAb HN times CD28, delayed *tumor* development and prolonged survival was observed in comparison to respective controls.
...MAJOR CONCEPTS: *Tumor* Biology
MISCELLANEOUS TERMS: ...*B7-2*...
...CD 28 T CELL *COSTIMULATORY* MOLECULE...

...*TUMOR* BIOLOGY

7/3,K/13 (Item 12 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11132736 BIOSIS NO.: 199799753881
Nonreplicating recombinant vaccinia virus encoding human B-7 molecules elicits effective costimulation of naive and memory CD4+ T lymphocytes in vitro.
AUTHOR: Marti Walter R; Zajac Paul; Spagnoli Giulio; Heberer Michael; Oertli Daniel(a)
AUTHOR ADDRESS: (a)Res. Unit, Dep. Surg., ZLF Lab 404, Hebelstr. 20, CH-4031 Basel**Switzerland
JOURNAL: Cellular Immunology 179 (2):p146-152 1997
ISSN: 0008-8749
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: We constructed recombinant vaccinia viruses (recVV) encoding the human T-cell *costimulatory* molecules B7-1 and B7-2. To abrogate the vaccinia virus transcription termination signal for early genes, the cDNA of B7-1 had to be modified by a T through C sense mutation at position 766. Upon infection with replication incompetent and noncytopathic recVV, several *tumor* cell lines as well as cultured human fibroblasts expressed the *costimulatory* molecules. All these cells were capable of providing effective costimulation for proliferation of resting CD4+ T-cells after infection with recVV encoding B7 molecules. The *costimulatory* effect could be blocked with CTLA-4 IgG fusion protein, the soluble ligand for B7. RecVV-induced overexpression of B7 on

syngeneic EBV-transform[redacted] lymphoblastoid...
MISCELLANEOUS TERMS: ...*B7-2*...

...T-CELL *COSTIMULATORY* MOLECULE

7/3,K/14 (Item 13 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11037138 BIOSIS NO.: 199799658283
Gene transfer of *costimulatory* molecules B7-1 and B7-2 into human multiple myeloma cells by recombinant adeno-associated virus enhances the cytolytic T cell response.
AUTHOR: Wendtner C-M; Nolte A; Mangold E; Buhmann R; Maass G; Chiorini J A; Winnacker E-L; Emmerich B; Kotin R M; Hallek M(a)
AUTHOR ADDRESS: (a)Genzentrum, Feodor-Lynen Str. 25, 081377 Muenchen** Germany
JOURNAL: Gene Therapy 4 (7):p726-735 1997
ISSN: 0969-7128
RECORD TYPE: Abstract
LANGUAGE: English

Gene transfer of *costimulatory* molecules B7-1 and B7-2 into human multiple myeloma cells by recombinant adeno-associated virus enhances the cytolytic T cell response.

ABSTRACT: Gene transfer of the *costimulatory* molecules of B7-1 and B7-2 induces a potent antitumor immune response in a variety of *tumor* models. B cell neoplasms including multiple myeloma (MM) often show little or no expression of B7 antigens; they are therefore a potential target for this...
MISCELLANEOUS TERMS: ...*B7-2*...

...*COSTIMULATORY* MOLECULE

7/3,K/15 (Item 14 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10984173 BIOSIS NO.: 199799605318
Expression of B7-2 (CD86) molecules by Reed-Sternberg cells of Hodgkin's disease.
AUTHOR: Van Gool S W; Delabie J; Vandenberghe P; Coorevits L; De Wolf-Peeters C; Ceuppens J L(a)
AUTHOR ADDRESS: (a)Lab. Exp. Immunol., Fac. Med., Onderwijs en Navorsing, Herestraat 49, B-3000 Leuven**Belgium
JOURNAL: Leukemia (Basingstoke) 11 (6):p846-851 1997
ISSN: 0887-6924
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Ligation of CD28 on T cells with its natural ligands B7-1 (CD80) or B7-2 (CD86) provides a major *costimulatory* signal for T cells and is of potential importance for *tumor* rejection. We previously reported a strong expression of B7-1 on Reed-Sternberg cells and anaplastic large cell lymphoma cells. We report here our findings...
MISCELLANEOUS TERMS: ...*B7-2*...

...*TUMOR* BIOLOGY

7/3,K/16 (Item 15 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10930231 BIOSIS NO.: 199799551376
Expression of *costimulatory* molecules B7-1 (CD80) and B7-2 (CD86) and human hepatocellular carcinoma.
AUTHOR: Tatsumi Tomohide; Takehara Tetsuo; Katayama Kazuhiro; Mochizuki Kiyoshi; Yamamoto Masato; Kanto Tatsuya; Sasaki Yutaka; Kasahara Akinori; Hayashi Norio(a)
AUTHOR ADDRESS: (a)First Dep. Med., Osaka Univ. Sch. Med., Yamadaoka 2-2, Suita, Osaka 565**Japan
JOURNAL: Hepatology 25 (5):p1108-1114 1997
ISSN: 0270-9139
RECORD TYPE: Abstract
LANGUAGE: English

Expression of *costimulatory* molecules B7-1 (CD80) and B7-2 (CD86) and human hepatocellular carcinoma.

ABSTRACT: Costimulation mediated by *costimulatory* molecules, such as B7-1 and B7-2, which are ligands for the CD28/cytolytic T lymphocyte associated antigen (CTLA)-4 counter-receptor, plays an...

...a plasmid containing human B7-1 complementary cDNA (cDNA), we were able to establish Hep3B cell lines strongly expressing B7-1. From mixed lymphocytes and *tumor* cultures analysis, the primary cytolytic activity against parental Hep3B cells could be induced effectively by B7-1-transfected Hep3B cells. These findings suggested that B7...
MISCELLANEOUS TERMS: ...*B7-2*...

...*COSTIMULATORY* MOLECULE...

...*TUMOR* BIOLOGY

7/3,K/17 (Item 16 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10930179 BIOSIS NO.: 199799551324
CD40 triggering of chronic lymphocytic leukemia B cells results in efficient alloantigen presentation and cytotoxic T lymphocyte induction by up-regulation of CD80 and CD86 *costimulatory* molecules.
AUTHOR: Van Den Hove L E; Van Gool S W; Vandenberghe P; Bakkus M; Thielemans K; Boogaerts M A; Ceuppens J L(a)
AUTHOR ADDRESS: (a)Lab. Experimental Immunology, Campus Gasthuisberg, Herestraat 49, 3000 Leuven**Belgium
JOURNAL: Leukemia (Basingstoke) 11 (4):p572-580 1997
ISSN: 0887-6924
RECORD TYPE: Abstract
LANGUAGE: English

CD40 triggering of chronic lymphocytic leukemia B cells results in efficient alloantigen presentation and cytotoxic T lymphocyte induction by up-regulation of CD80 and CD86 *costimulatory* molecules.

...ABSTRACT: B cells (B-CLL cells) are known to be inefficient at stimulating allogeneic T cells, and to lack significant expression of B7 (CD80 and CD86) *costimulatory* molecules. We investigated the potential of CD40 triggering to up-regulate the expression of adhesion and *costimulatory* molecules on B-CLL cells, and to enhance their immunogenicity towards allogeneic T cells. B-CLL cells cocultured with human CD40 ligand-expressing mouse fibroblasts rapidly up-regulated CD54 and CD58 adhesion molecules and B7-1 (CDBO) and B7-2 (CD86) *costimulatory* molecules, and acquired a strong stimulatory capacity towards CD4+ as well as isolated CD8+ allogeneic T cells. Costimulation by both CDBO and CD86 proved critical...
...MAJOR CONCEPTS: *Tumor* Biology

MISCELLANEOUS TERMS: *B7-2*...

...*TUMOR* BIOLOGY

7/3,K/18 (Item 17 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10897652 BIOSIS NO.: 199799518797
Expression of B7-1 and B7-2 *costimulatory* molecules by human gastric epithelial cells: Potential role in CD4+ T cell activation during Helicobacter pylori infection.
AUTHOR: Ye Gang; Barrera Carlos; Fan Xuejun; Gourley William K; Crowe Sheila E; Ernst Peter B; Reyes Victor E(a)
AUTHOR ADDRESS: (a)Univ. Texas Med. Branch, Child. Hosp., C-66, 301 University Blvd., Galveston, TX 77555-0366**USA
JOURNAL: Journal of Clinical Investigation 99 (7):p1628-1636 1997
ISSN: 0021-9738
RECORD TYPE: Abstract
LANGUAGE: English

Expression of B7-1 and B7-2 *costimulatory* molecules by human gastric epithelial cells: Potential role in CD4+ T cell activation during Helicobacter pylori infection.
MISCELLANEOUS TERMS: ...*B7-2*...

...*COSTIMULATORY* MOLECULES...

...*TUMOR* BIOLOGY

7/3,K/19 (Item 18 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10757861 BIOSIS NO.: 199799379006
Expression of *costimulatory* molecules: B7 and ICAM up-regulation after treatment with a suicide gene.
AUTHOR: Ramesh Rajagopal; Munshi Anupama; Abboud Camille N; Marrogi Aizen J ; Freeman Scott M(a)
AUTHOR ADDRESS: (a)Dep. Pathol. SL79, Tulane Univ. Med. Cent., 1430 Tulane Ave., New Orleans, LA 70118**USA
JOURNAL: Cancer Gene Therapy 3 (6):p373-384 1996
ISSN: 0929-1903
RECORD TYPE: Abstract
LANGUAGE: English

Expression of *costimulatory* molecules: B7 and ICAM up-regulation after treatment with a suicide gene.

...ABSTRACT: being used in gene therapy-based clinical trials for cancer treatment. Its therapeutic effect is based on a "bystander effect" whereby HSV-TK gene-modified *tumor* cells are toxic to nearby unmodified *tumor* cells when exposed to the antiviral drug GCV. We have recently hypothesized that the in vivo mechanism of this bystander effect is due to alterations in the *tumor* microenvironment in response to release of cytokines and an infiltration of leukocytes after treatment with HSV-TK gene-modified *tumor* cells and GCV, which results in *tumor* regression. Expression of B7, a recently identified *costimulatory* molecule that is important for T-cell stimulation, has been shown to be modulated by stimulatory cytokines interferon-gamma, *tumor* necrosis factor-alpha, and inhibited by interleukin-10. In the present study, we investigated whether the cytokines released after HSV-TK and GCV treatment could induce the expression of the *costimulatory* molecules B7-1 and B7-2 and the adhesion molecule (ICAM)-1 in the *tumor*. Furthermore, we

investigated whether t altered environment affected antitumor properties of host lymphocytes. An in vitro model was developed to establish the effects of HSV-TK gene-modified *tumor* cells and GCV on *tumor* infiltrating cells. The murine macrophage cell line (IC21) was exposed to either supernatants or cell lysates collected from a mixture of HSV-TK-transduced (KBALB-STK) and non-transduced (KBALB) murine fibrosarcoma *tumor* cells previously exposed to GCV (experimental). Immunohistochemical analysis showed a significant expression (P lt .0001) of B7-1 and B7-2 post exposure of IC21...

...control lysate or supernatant remained unchanged for B7-1 and B7-2. In vivo analysis for B7-1 and B7-2 expression by immunohistochemistry in *tumor* tissues from experimental mice receiving HSV-TK gene-modified *tumor* cells and GCV treatment showed a significant expression of B7.1 (35%, P lt .0001) and B7.2 (38.2%, P lt .0001) on *tumor*-infiltrating mononuclear cells. In contrast, *tumor*-bearing control animals showed low levels of B7-2 expression (5.8%), whereas B7-1 was undetectable, as confirmed by reverse-transcriptase polymerase chain reaction. In addition, a significant up-regulation of ICAM expression (50%) on *tumor* tissues was observed in the experimental group (P = .0317) as compared with the control group (25%). Furthermore, T cells isolated from experimental mice showed a significant in vitro proliferative response (p = .0202) when exposed to syngeneic *tumor* cells as compared with the control group. These data demonstrated that the use of HSV-TK gene-modified *tumor* cells and GCV as a suicide gene in the treatment of an intraperitoneal *tumor* resulted in the expression of the B7 *costimulatory* molecules and ICAM-1 adhesion molecule and enhanced proliferative response of host T cells. These findings help to understand the mechanism of *tumor* cell killing in vivo using HSV-TK gene-modified *tumor* cells.
...MAJOR CONCEPTS: *Tumor* Biology
MISCELLANEOUS TERMS: ...*B7-2*...

...FIBROSARCOMA *TUMOR* CELL...
...HERPES SIMPLEX VIRUS THYMIDINE KINASE GENE-MODIFIED *TUMOR* CELL...

...*TUMOR* BIOLOGY
?ds

Set	Items	Description
S1	80	(COSTIMULATORY OR CO-STIMULATORY) AND (B7-2)
S2	19	S1 AND (TUMOR OR TUMOUR)
S3	4	S2 AND (GENE (W) (THERAPY OR TREATMENT))
S4	4	RD (unique items)
S5	2	S2 AND (IMMUNOTHERAPY)
S6	2	RD (unique items)
S7	19	RD S2 (unique items)

?s s2 and (immunogenecity)

	19	S2
	134	IMMUNOGENECITY
S8	0	S2 AND (IMMUNOGENECITY)

?s (immunotherapy) and (B7-2 or CD86)

	81066	IMMUNOTHERAPY
	207	B7-2
	3282	CD86
S9	283	(IMMUNOTHERAPY) AND (B7-2 OR CD86)

?s s9 and (cancer or tumor or tumour)

	283	S9
	1599687	CANCER
	1355012	TUMOR
	175871	TUMOUR
S10	212	S9 AND (CANCER OR TUMOR OR TUMOUR)

?s s10 and (gene (w) therapy)

	212	S10
	1628282	GENE
	4122751	THERAPY

```
          43988  GENE(W)[redacted]ERAPY
     S11      13  S10 AND (GENE (W) THERAPY)
?rd
...completed examining records
     S12      11  RD (unique items)
?t s12/3,k/all
```

12/3,K/1 (Item 1 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

09952017 99267963

IL-13 can substitute for IL-4 in the generation of dendritic cells for the induction of cytotoxic T lymphocytes and *gene* *therapy*.

Alters SE; Gadea JR; Holm B; Lebkowski J; Philip R
Surromed Inc., Palo Alto, CA 94303, USA.

Journal of immunotherapy (UNITED STATES) May 1999, 22 (3) p229-36, Journal Code: CUQ
Languages: ENGLISH
Document type: JOURNAL ARTICLE

IL-13 can substitute for IL-4 in the generation of dendritic cells for the induction of cytotoxic T lymphocytes and *gene* *therapy*.

Immunization with *tumor*-associated antigen pulsed dendritic cells (DC) has been shown to elicit both protective and therapeutic antitumor immunity in a variety of animal models and is currently being investigated for the treatment of *cancer* patients in clinical trials. In this study we show that DC can be generated from peripheral blood mononuclear cells of healthy donors as well as breast and melanoma *cancer* patients using granulocyte-macrophage colony-stimulating factor (GM-CSF) and interleukin-13 (IL-13) and that these DC have many of the same characteristics as...
... GM-CSF and IL-4. The DC generated in GM-CSF and IL-13 are CD14- and express high levels of the cell surface markers *CD86*, HLA-DR, and CD58, as do DC generated in GM-CSF and IL-4. The purity and yield of both DC populations are not significantly...

...after transduction with recombinant adenovirus containing the LacZ gene. These results suggest that DC generated in GM-CSF and IL-13 may be useful for *immunotherapy* and *gene* *therapy* protocols.

Descriptors: Dendritic Cells--Immunology--IM; **Gene* *Therapy*; *Interleukin-13--Pharmacology--PD; *Interleukin-4--Pharmacology--PD; *Neoplasms--Therapy--TH; *T-Lymphocytes, Cytotoxic--Immunology--IM; Antigens, Neoplasm; Breast Neoplasms--Blood--BL; Breast Neoplasms--Immunology--IM; Cell Differentiation; Dendritic Cells--Cytology--CY; Granulocyte-Macrophage Colony-Stimulating Factor--Pharmacology--PD; Immunophenotyping; *Immunotherapy*; Leukocytes, Mononuclear--Cytology--CY; Leukocytes, Mononuclear--Immunology--IM; Lymphocyte Culture Test, Mixed; Melanoma--Blood--BL; Melanoma--Immunology--IM; Neoplasm Proteins--Immunology--IM

12/3,K/2 (Item 2 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

09373667 98077533

Gene *immunotherapy* in murine acute myeloid leukemia: granulocyte-macrophage colony-stimulating factor *tumor* cell vaccines elicit more potent antitumor immunity compared with B7 family and other cytokine vaccines.

Dunussi-Joannopoulos K; Dranoff G; Weinstein HJ; Ferrara JL; Bierer BE; Croop JM
Dana-Farber Cancer Institute and Massachusetts General Hospital, Harvard Medical School, Boston, MA, USA.

Blood (UNITED STATES) Jan 1 1998, 91 (1) p222-30, ISSN 0006-4971 Journal Code: A8G

Languages: ENGLISH
Document type: JOURNAL ARTICLE

Gene *immunotherapy* in murine acute myeloid leukemia: granulocyte-macrophage colony-stimulating factor *tumor* cell vaccines elicit more potent antitumor immunity compared with B7 family and other cytokine vaccines.

In an attempt to explore novel treatment modalities in acute myeloid leukemia (AML), we studied the role of costimulatory and cytokine gene *immunotherapy* in murine AML. We have previously shown that leukemic mice can be cured with CD80 transfected leukemic cells (B7. 1-AML vaccine) administered early in the course of the disease and that the failure B7.1-AML vaccines administered late cannot be attributed to immunosuppression induced by *tumor* growth. CD8+ T cells, which are necessary for *tumor* rejection, are activated rather than suppressed during the first half of the leukemic course in nonvaccinated mice. In this report, we question whether *CD86* (B7.2) or the cytokines granulocyte-macrophage colony-stimulating factor (GM-CSF), interleukin-4 (IL-4), or *tumor* necrosis factor-alpha (TNF-alpha) can improve the vaccination potential of AML cells. The choice of cytokines was based on their combined and alone as...

... develop leukemia; (2) GM-AML cells are tumorigenic in sublethally irradiated SJL/J mice but not in Swiss nu/nu mice, indicating that killing of *tumor* cells is not T-cell-dependent; (3) vaccines with irradiated GM-AML, but not B7.2-, IL-4-, or TNF-alpha-AML cells, can elicit...

...at week 2, as opposed to cures only up to 1 week with B7.1-AML vaccines. These preclinical data emphasize that GM-CSF gene *immunotherapy* deserves clinical evaluation in AML.

Descriptors: Antigens, CD--Immunology--IM; *Antigens, CD80--Immunology --IM; **Cancer* Vaccines--Therapeutic Use--TU; *Cytokines--Immunology--IM; **Gene* *Therapy*; *Granulocyte-Macrophage Colony-Stimulating Factor --Immunology--IM; **Immunotherapy*, Active; *Leukemia, Myeloid--Therapy--TH ; *Leukemia, Radiation-Induced--Therapy--TH; *Membrane Glycoproteins --Immunology--IM; *Neoplasm Transplantation; **Tumor* Stem Cells --Transplantation--TR...; Mice, Inbred Strains; Mice, Nude; Recombinant Fusion Proteins--Genetics--GE; Recombinant Fusion Proteins--Immunology--IM ; Recombinant Fusion Proteins--Secretion--SE; T-Lymphocyte Subsets --Immunology--IM; *Tumor* Necrosis Factor--Genetics--GE; *Tumor* Necrosis Factor--Immunology--IM; *Tumor* Necrosis Factor--Secretion--SE; *Tumor* Stem Cells--Immunology--IM; *Tumor* Stem Cells--Radiation Effects--RE; *Tumor* Stem Cells--Secretion--SE; Whole-Body Irradiation

Chemical Name: Antigens, CD; (Antigens, CD80; (B7-2 protein; (*Cancer* Vaccines; (Cytokines; (Interleukin-4; (Membrane Glycoproteins; (Recombinan t Fusion Proteins; (*Tumor* Necrosis Factor; (Granulocyte-Macrophage Colony-Stimulating Factor

12/3,K/3 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

08167288 95007588

Induction of antitumor immunity by recombinant vaccinia viruses expressing B7-1 or B7-2 costimulatory molecules.

Hodge JW; Abrams S; Schlom J; Kantor JA
Laboratory of Tumor Immunology and Biology, National Cancer Institute, NIH, Bethesda, Maryland 20892.

Cancer research (UNITED STATES) Nov 1 1994, 54 (21) p5552-5, ISSN 0008-5472 Journal Code: CNF
Languages: ENGLISH
Document type: JOURNAL ARTICLE

... low efficiency of infection of retroviral vectors and consequent manipulations of infected cells. Vaccinia virus thus represents an

alternative vector for B[redacted]gene expression in *tumor* cell In this report we describe the construction and characterization of recombinant vaccinia viruses containing the murine B7-1 and B7-2 genes (designated rV...

... 4 h). Infection of murine carcinoma cells with low multiplicity of infection of wild-type vaccinia virus leads to the death of the host following *tumor* transplantation. In contrast, inoculation of rV-B7-1- or rV-B7-2-infected *tumor* cells into immunocompetent animals resulted in no *tumor* growth. These studies demonstrate the utility of recombinant vaccinia viruses to deliver B7 molecules to *tumor* cells for potential *gene* *therapy* and recombinant approaches to *cancer* *immunotherapy*.
...; Sequence; Cell Division; DNA, Complementary--Genetics--GE; DNA, Viral--Genetics--GE; Genetic Vectors; Immunocompetence; Mice; Mice, Inbred C57BL; Molecular Sequence Data; Neoplasm Transplantation; Recombination, Genetic; *Tumor* Cells, Cultured; Vaccinia Virus--Genetics--GE; Vaccinia Virus--Metabolism--ME
Gene Symbol: B7-1; *B7-2*

12/3,K/4 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11823367 BIOSIS NO.: 199900069476
Enhanced interleukin-2 gene transfer *immunotherapy* of breast *cancer* by coexpression of B7-1 and B7-2.
AUTHOR: Emitage Peter C R; Wan Yonghong; Muller William; Graham Frank L; Gauldie Jack(a)
AUTHOR ADDRESS: (a)Dep. Pathol., 1200 Main Street W., Hamilton, ON L8N 3Z5 **Canada
JOURNAL: Journal of Interferon and Cytokine Research 18 (11):p927-937 Nov., 1998
ISSN: 1079-9907
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

Enhanced interleukin-2 gene transfer *immunotherapy* of breast *cancer* by coexpression of B7-1 and B7-2.

...ABSTRACT: activity of adenoviral vectors constructed to express either B7-1 and IL-2 or B7-2 and IL-2. Before administering the vector intratumoraly to *tumor*-bearing mice, we determined the expression of B7-1, B7-2, MHC I, and MHC H on these *tumor* cells and demonstrated positive expression of only MHC I. Intratumoral injection of the vector expressing B7-1 and IL-2 resulted in complete regression of...
DESCRIPTORS:
MAJOR CONCEPTS: *Tumor* Biology
DISEASES: breast *cancer*--
CHEMICALS & BIOCHEMICALS: ...*B7-2*
METHODS & EQUIPMENT: *gene* *therapy*--...

...*immunotherapy*--

12/3,K/5 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

11115488 EMBASE No: 2001136381
Efficient gene transduction by RGD-fiber modified recombinant adenovirus into dendritic cells
Asada-Mikami R.; Heike Y.; Kanai S.; Azuma M.; Shirakawa K.; Takaue Y.; Krasnykh V.; Curiel D.T.; Terada M.; Abe T.; Wakasugi H.
H. Wakasugi, Pharmacology Division, National Cancer Center Hospital, Hematopoietic Stem Cell Transplant, 5-1-1 Tsukiji, Chuo-ku, Tokyo

104-0045 Japan
AUTHOR EMAIL: hwakasug@gan2.res.ncc.go.jp
Japanese Journal of Cancer Research (JPN. J. CANCER RES.) (Japan)
2001, 92/3 (321-327)
CODEN: JJCRE ISSN: 0910-5050
DOCUMENT TYPE: Journal ; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 33

Dendritic cells (DC) are important antigen-presenting cells in the development of an anti-*tumor* T cell response. To extend the range of current immuno/gene therapies, we tested luciferase-expressing RGD-adenovirus (Ad) (Ad5lucRGD)-mediated transduction into DC. Phenotypically characterized DC were generated from peripheral blood CD14⁺ cells by incubation with granulocyte-macrophage colony-stimulating factor, interleukin-4 and *tumor* necrosis factor α. On the 7th day of culture, the cells became mature DC with a CD1a⁺, CD11c⁺, CD80⁺, CD83⁺, *Cd86*⁺, human leukocyte antigen (HLA)-DR⁺, CD14⁻ phenotype. The expression of α<inf>v</inf>β<inf>3</inf> integrin...
DRUG DESCRIPTORS:
arginylglycylaspartic acid; luciferase--endogenous compound--ec; granulocyte colony stimulating factor; interleukin 4; *tumor* necrosis factor alpha; CD14 antigen--endogenous compound--ec; CD1 antigen --endogenous compound--ec; CD11 antigen--endogenous compound--ec; B7 antigen--endogenous compound--ec; CD83 antigen--endogenous compound--ec; *CD86* antigen--endogenous compound--ec; HLA DR antigen--endogenous compound--ec; integrin--endogenous compound--ec; virus protein--endogenous compound--ec; lymphocyte surface marker--endogenous compound--ec...
MEDICAL DESCRIPTORS:
virus recombinant; genetic transduction; dendritic cell; antigen presenting cell; antineoplastic activity; T lymphocyte; *immunotherapy*; *gene therapy*; *phenoty*pe; peripheral lymphocyte; incubation time; virus culture; cell maturation; cytokine production; human; nonhuman; controlled study; human cell; article; priority journal
SECTION HEADINGS:
004 Microbiology: Bacteriology, Mycology, Parasitology and Virology
016 *Cancer*
026 Immunology, Serology and Transplantation

12/3,K/6 (Item 2 from file: 73)
DIALOG(R)File 73:EMBASE

10602355 EMBASE No: 2000067641
An oral CD40 ligand *gene* *therapy* against lymphoma using attenuated Salmonella typhimurium
Urashima M.; Suzuki H.; Yuza Y.; Akiyama M.; Ohno N.; Eto Y.
M. Urashima, Department of Pediatrics, Jikei University, School of Medicine, 3-25-8 Nishi-shimbashi, Minato-Ku, Tokyo Japan
AUTHOR EMAIL: urashimaf@aol.com
Blood (BLOOD) (United States) 15 FEB 2000, 95/4 (1258-1263)
CODEN: BLOOA ISSN: 0006-4971
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 47

An oral CD40 ligand *gene* *therapy* against lymphoma using attenuated Salmonella typhimurium

...can be used not only as a vehicle in oral genetic immunization via the intestinal mucosa, but also as an enhancer of interferon gamma-and *tumor* necrosis factor alpha-mediated immunity. After confirming that human CD40L can up-regulate expression of Fas, B7-1, and B7-2 molecules on murine BCL

...
...found to be composed of infiltrating lymphocytes expressing Fas ligand. These results have the potential to be a simple, effective, and above all, safe immune-*gene* *therapy* against BCL. (C) 2000 by The American Society of Hematology.
DRUG DESCRIPTORS:
Fas antigen--endogenous compound--ec; B7 antigen--endogenous compound--ec; *CD86* antigen--endogenous compound--ec
MEDICAL DESCRIPTORS:
*B cell lymphoma--therapy--th; **gene* *therapy*; **cancer* *immunotherapy* Salmonella typhimurium; antigen expression; DNA transfection; *cancer* inhibition; protein determination; tissue distribution; lymphocytic infiltration; histopathology; nonhuman; mouse; animal experiment; animal model; controlled study; animal tissue; animal cell; article; priority journal
SECTION HEADINGS:
  016 *Cancer*
  022 Human Genetics
  025 Hematology
  026 Immunology, Serology and Transplantation

12/3,K/7 (Item 3 from file: 73)
DIALOG(R)File 73:EMBASE

10590311 EMBASE No: 2000055540
Immunogene therapy against mouse leukemia using B7 molecules
Takahashi T.; Hirano N.; Takahashi T.; Chiba S.; Yazaki Y.; Hirai H.
H. Hirai, Department of Cell Therapy, Faculty of Medicine, University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113 Japan
AUTHOR EMAIL: hhirai-tky@umin.u-tokyo.ac.jp
Cancer Gene Therapy (CANCER GENE THER.) (United States) 2000, 7/1 (144-150)
CODEN: CGTHE ISSN: 0929-1903
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 31

B7 costimulatory molecules play an important role in T-cell activation. It is well known that *tumor* cells that express B7 molecules can elicit antitumor immunity, but little is known regarding which B7 molecule, B7-1 (CD80) or B7-2 (*CD86*), can do so more efficiently. To address this issue, we have introduced B7-1 or B7-2 into 8709 cells, a radiation-induced mouse myelocytic...
DRUG DESCRIPTORS:
*B7 antigen; **CD86* antigen
MEDICAL DESCRIPTORS:
*myeloid leukemia--therapy--th; **cancer* *immunotherapy*; **gene* *therapy*
tumor immunity; carcinogenicity; T lymphocyte activation; lymphocyte depletion; natural killer cell; T lymphocyte subpopulation; treatment outcome; genetic transduction; nonhuman; mouse; animal experiment; animal model; controlled study...
SECTION HEADINGS:
  016 *Cancer*
  022 Human Genetics
  025 Hematology

12/3,K/8 (Item 4 from file: 73)
DIALOG(R)File 73:EMBASE

07581819 EMBASE No: 1999070065
Expression patterns of costimulatory molecules on cells derived from

human hematological malignancies

Zheng Z.; Takahashi M.; Aoki S.; Toba K.; Liu A.; Osman Y.; Takahashi H.; Tsukada N.; Suzuki N.; Nikkuni K.; Furukawa T.; Koike T.; Aizawa Y.
M. Takahashi, Department of Medical Technology, College of Biomedical Technology, Niigata University, 2-746, Asahimachi, Niigata 951-8518 Japan
AUTHOR EMAIL: matak@clg.niigata-u.ac.jp
Journal of Experimental and Clinical Cancer Research (J. EXP. CLIN. CANCER RES.) (Italy) 1998, 17/3 (251-258)
CODEN: JECRD ISSN: 0392-9078
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 36

In order to elucidate the possibility of costimulatory molecules-mediated immuno or immuno-*gene* *therapy* for human hematological malignancies, we analyzed 30 hematopoietic cell lines and cells obtained from 48 patients with hematological malignancies for the expression of costimulatory molecules such as CD80 and *CD86*. The 30 hematopoietic cell lines were composed of 4 cell lines derived from the patients with T-cell acute lymphoblastic leukemia (T-ALL), 3 from...

...from chronic myeloid leukemia at blast crisis (CML-BC), 3 from Burkitt's lymphoma and one from follicular cell lymphoma. The expression of CD80 or *CD86* was frequent on cell lines derived from the patients with CML-BC or Burkitt's lymphoma, while it was rare on cell lines from T...

...cases, all cases except one case with CLL and two with B cell lymphoma were demonstrated to be negative for CD80 on the neoplatic cells. *CD86* and HLA-DR were shown to be expressed in 50% and 88% of total 48 cases respectively. In 30 AML samples, *CD86* was positive in 15 cases (50%), which was sharply in contrast with the finding that CD80 was not detected in any AML samples. HLA-DR...

...IL- 15 and observed whether these cytokines could induce or enhance the expression of CD40, CD54, CD58 and HLA-DR as well as CD80 and *CD86*. The present study demonstrated that the expression of *CD86* could be upregulated not only by IFN-gamma, but also by IL-12 or IL-15 in some cell lines. These findings suggested the possibility that the absence of CD80 on neoplastic cells may be associated with the lack of efficient anti-*tumor* immunity in most patients with hematological malignancies and that the immuno or immuno- *gene* *therapy* manipulating the expression of costimulatory molecules such as CD80 may be a useful treatment modality for hematological malignancies.

DRUG DESCRIPTORS:
*b7 antigen--endogenous compound--ec; **cd86* antigen--endogenous compound --ec; *HLA DR antigen--endogenous compound--ec; *cell adhesion molecule --endogenous compound--ec; *cytokine

MEDICAL DESCRIPTORS:
**tumor* cell line; *hematologic disease
t cell leukemia; acute lymphoblastic leukemia; philadelphia 1 chromosome; acute myeloblastic leukemia; chronic myeloid leukemia; blast cell crisis; Burkitt lymphoma; follicular lymphoma; *gene* *therapy*; *immunotherapy*; human; clinical article; controlled study; human cell; article; priority journal

SECTION HEADINGS:
016 *Cancer*
025 Hematology
026 Immunology, Serology and Transplantation

12/3,K/9 (Item 5 from file: 73)
DIALOG(R)File 73:EMBASE

07282159 EMBASE No: 1998162367

Cytokine *gene* *therapy[redacted]r infusion as treatment for so human *cancer*

Robinson B.W.S.; Mukherjee S.A.; Davidson A.; Morey S.; Musk A.W.; Ramshaw I.; Smith D.; Lake R.; Haenel T.; Garlepp M.; Marley J.; Leong C.; Caminschi I.; Scott B.
Prof. B.W.S. Robinson, University Department of Medicine, Queen Elizabeth II Medical Centre, Nedlands, WA 6099 Australia
Journal of Immunotherapy (J. IMMUNOTHER.) (United States) 1998, 21/3 (211-217)
CODEN: JOIME ISSN: 1053-8550
DOCUMENT TYPE: Journal; Conference Paper
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 25

Cytokine *gene* *therapy* or infusion as treatment for solid human *cancer*

In the induction of tissue-directed immune responses, cytokines tend to be released within the affected tissues. We used two strategies to expose *tumor* tissues to continuous high levels of cytokines: First, a vaccinia interleukin (IL)2 recombinant was injected directly intratumorally 3-weekly at 10sup 7 pfus/dose in six patients with the solid *tumor* malignant mesothelioma (MM). No virus excretion was detectable. At each cycle vaccinia-IL-2 mRNA (SQ [semi-quantitative] reverse transcription polymerase chain reaction) was maximal 24-72 h following injection reduced at 8 days and faded by 21 days. No *tumor* regression occurred. Second, based on the success of granulocyte macrophage colony-stimulating factor (GM-CSF) in gene transfer experiments, we conducted a study using continuous...

...pump at doses of 10 mu/(c)g/24 h over 8 weeks. Systemic neutrophil agglutination and local catheter-related difficulties occurred. Two patients demonstrated *tumor* necrosis, one of whom had a marked progressive mononuclear cell infiltration of the *tumor* associated with a partial response (>50% reduction in *tumor* area). Murine studies using our MM model in CBA and BALB/C mice have demonstrated that B7- 1 and allo-class I transfections induce strong *tumor*-specific cytotoxic T lymphocyte responses: GM-CSF, IL-12, and IL-2 induced mixed nonspecific plus specific responses, whereas B7-2 and class II transfections...
DRUG DESCRIPTORS:
messenger rna; *cd86* antigen--endogenous compound--ec
MEDICAL DESCRIPTORS:
**cancer* *immunotherapy*; **gene* *therapy*; *malignant mesothelioma --therapy--th
immune response; gene transfer; neutrophil; cytotoxic t lymphocyte; vaccinia virus; antineoplastic activity; computer assisted tomography; malaise--side effect--si; *tumor* necrosis--complication--co; *tumor* regression; human; clinical article; controlled study; adult; intratumoral drug administration; conference paper; priority journal
SECTION HEADINGS:
015 Chest Diseases, Thoracic Surgery and Tuberculosis
016 *Cancer*
026 Immunology, Serology and Transplantation
037 Drug Literature Index
038 Adverse Reaction Titles

12/3,K/10 (Item 6 from file: 73)
DIALOG(R)File 73:EMBASE

07282158 EMBASE No: 1998162366
IL-3-mediated enhancement of particulate antigen presentation by macrophages

Lord E.M.; Ye K.-Y.; Moran J.A.; Storozynsky E.; Frelinger J.G.
Dr. E.M. Lord, Box 704, 601 Elmwood Ave., Rochester, NY 14620 United States

Journal of Immunotherapy (J. IMMUNOTHER.) (United States) 1998, 21/3 (205-210)
CODEN: JOIME ISSN: 1053-8550
DOCUMENT TYPE: Journal; Conference Paper
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 31

Mice were exposed to interleukin- (IL-) 3 in vivo by injection of *tumor* cells transfected with the IL-3 gene. At 10 days post *tumor* injection, bone marrow cells were recovered, pulsed with particulate antigen in the form of ovalbumin (Ova)-coated magnetic beads, and tested for their ability to...

...hybridoma. Cells from IL-3-stimulated mice exhibited a marked increase in antigen presentation compared with cells from mice injected with control non- cytokine-secreting *tumor* cells. These cells were markedly more efficient at presenting particulate Ova antigen than in presenting soluble Ova. Based on adherence, radiation resistance, and surface markers...
DRUG DESCRIPTORS:
ovalbumin; cd45 antigen; cd11b antigen; b7 antigen; *cd86* antigen; Fc receptor; major histocompatibility antigen class 1--endogenous compound--ec
MEDICAL DESCRIPTORS:
**cancer* *immunotherapy*; **gene* *therapy*; *antigen presentation; * macrophage
SECTION HEADINGS:
016 *Cancer*
026 Immunology, Serology and Transplantation

12/3,K/11 (Item 7 from file: 73)
DIALOG(R)File 73:EMBASE
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06935221 EMBASE No: 1997219720
Granulocyte-macrophage colony-stimulating factor and B7-2 combination immunogene therapy in an allogeneic Hu-PBL-SCID/beige mouse-human glioblastoma multiforme model
Parney I.F.; Petruk K.C.; Zhang C.; Farr-Jones M.; Sykes D.B.; Chang L.-J.
Dr. L.-J. Chang, Heritage Medical Research Center, Dept. Med. Microbiology Immunology, University of Alberta, Edmonton, Alta. T6G 2S2 Canada
Human Gene Therapy (HUM. GENE THER.) (United States) 1997, 8/9 (1073-1085)
CODEN: HGTHE ISSN: 1043-0342
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 88

...and > 2 orders of magnitude fluorescence shift on flow cytometry for B7-2). The effect of GM-CSF and/or B7-2 transducion on D54MG *tumor* growth in vivo was monitored in a novel allogeneic human peripheral blood lymphocyte-severe combined inmunodeficiency mouse (Hu-PBL-SCID) model. GM-CSF- or B7...
...reconstituted mice compared to untransduced and/or unreconstituted controls. Growth suppression was greatest for B7-2. Furthermore, vaccination with irradiated GM-CSF/B7-2-transduced *tumor* cells markedly inhibited growth of wild-type tumors at distant sites. Thus, this study illustrates a potential *gene* *therapy* strategy for glioblastoma multiforme patients using GM-CSF and/or B7-2 transduced *tumor* vaccines. Although extension of these allogeneic studies to an autologous system is critical, this is the first demonstration of in vivo efficacy of combination GM...
DRUG DESCRIPTORS:
**cd86* antigen; *granulocyte macrophage colony stimulating factor
MEDICAL DESCRIPTORS:

**cancer* *immunotherapy*, **gene* *therapy*; *glioblastom
animal experiment; animal model; animal tissue; article; *cancer* cell culture; *cancer* inhibition; *cancer* model; controlled study; expression vector; female; flow cytometry; gene expression; genetic transduction; human; human cell; mouse; nonhuman; peripheral lymphocyte; retrovirus; scid mouse
SECTION HEADINGS:
  008 Neurology and Nerosurgery
  016 *Cancer*
  022 Human Genetics
  026 Immunology, Serology and Transplantation
?ds

Set	Items	Description
S1	80	(COSTIMULATORY OR CO-STIMULATORY) AND (B7-2)
S2	19	S1 AND (TUMOR OR TUMOUR)
S3	4	S2 AND (GENE (W) (THERAPY OR TREATMENT))
S4	4	RD (unique items)
S5	2	S2 AND (IMMUNOTHERAPY)
S6	2	RD (unique items)
S7	19	RD S2 (unique items)
S8	0	S2 AND (IMMUNOGENECITY)
S9	283	(IMMUNOTHERAPY) AND (B7-2 OR CD86)
S10	212	S9 AND (CANCER OR TUMOR OR TUMOUR)
S11	13	S10 AND (GENE (W) THERAPY)
S12	11	RD (unique items)

?s s10 and (review)

	212	S10
	1129401	REVIEW
S13	8	S10 AND (REVIEW)

?rd
...completed examining records

S14	7	RD (unique items)

?t s14/3,k/all

14/3,K/1 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

10590793 20289544
From the study of *tumor* cell immunogenicity to the generation of antitumor cytotoxic cells in non-Hodgkin's lymphomas.
Chaperot L; Jacob MC; Molens JP; Manches O; Bensa JC; Plumas J
Laboratoire de Recherche et de Developpement, ETS Isere et Savoie, La Tronche, France. laurence.chaperot@wanadoo.fr
Leukemia & lymphoma (SWITZERLAND) Jul 2000, 38 (3-4) p247-63, ISSN 1042-8194 Journal Code: BNQ
Languages: ENGLISH
Document type: Journal Article; Review; Review, Tutorial

From the study of *tumor* cell immunogenicity to the generation of antitumor cytotoxic cells in non-Hodgkin's lymphomas.
... an attempt to support the development of new immunotherapeutic treatments for this disorder, which remains resistant to conventional treatments in most cases. In the present *review*, we report and discuss our new findings in the field of NHL B cell immunogenicity. One aspect of our work is the description of the...

...and analyzed the mechanisms of cell lysis involved. Since the generation of a T cell response requires the expression of the costimulatory molecules CD80 and *CD86* , we investigated their in vivo expression and their modulation in vitro during contact with responding T lymphocytes. The understanding of the immunogenicity of NHL B cells has enabled us to develop a new culture protocol to induce antitumor specific autologous CTL. The originality of NHL B cells--unlike most other *tumor* cells--is to be able to function as antigen presenting cells (APC) and to activate a T cell

response in the absence of other professional APC. Over the next few years, these findings should allow the generation of anti-NHL specific T cells for adoptive *immunotherapy* and for the identification of NHL-associated antigens.

Descriptors: Antigen-Presenting Cells--immunology--IM; *B-Lymphocytes --immunology--IM; *Lymphoma, B-Cell--immunology--IM; *T-Lymphocytes, Cytotoxic--immunology--IM; **Tumor* Stem Cells--immunology--IM...; Cell Adhesion Molecules--immunology--IM; Cells, Cultured; Cytotoxicity, Immunologic; Gene Expression Regulation, Neoplastic; HLA Antigens --biosynthesis--BI; HLA Antigens--genetics--GE; HLA Antigens--immunology --IM; *Immunotherapy*, Adoptive; Killer Cells, Lymphokine-Activated --immunology--IM; Lymphocytes, *Tumor*-Infiltrating--immunology--IM; Lymphoma, B-Cell--therapy--TH; Membrane Glycoproteins--biosynthesis--BI; Membrane Glycoproteins--genetics--GE; Membrane Glycoproteins--immunology --IM

14/3,K/2 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

11110732 EMBASE No: 2001128076
Potential for therapy with AML-derived dendritic cells
Claxton D.; Choudhury A.
D. Claxton, Penn State College of Medicine, Milton S Hersley Medical Center, 500 University Dr., Hershey, PA 17033-0850 United States
Leukemia (LEUKEMIA) (United Kingdom) 2001, 15/4 (668-669)
CODEN: LEUKE ISSN: 0887-6924
DOCUMENT TYPE: Journal ; Review
LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 4

DRUG DESCRIPTORS:
B7 antigen--endogenous compound--ec; *CD86* antigen--endogenous compound --ec; major histocompatibility antigen class 1--endogenous compound--ec; major histocompatibility antigen class 2--endogenous compound--ec; granulocyte macrophage colony stimulating factor; *tumor* necrosis factor alpha; interleukin 4; CD40 antigen--endogenous compound--ec; alpha interferon--endogenous compound--ec; interleukin 2--drug dose--do; interleukin 2--drug therapy--dt; *tumor* vaccine--drug therapy--dt
MEDICAL DESCRIPTORS:
cancer *immunotherapy*; allogenic bone marrow transplantation; hematopoietic stem cell transplantation; graft versus leukemia effect; graft versus host reaction--complication--co; cytotoxic T lymphocyte; cellular immunity; leukemia cell; myelodysplastic syndrome--drug therapy --dt; myelodysplastic syndrome--prevention--pc; myelodysplastic syndrome --therapy--th; *tumor* cell; cell differentiation; maximum tolerated dose; vaccination; human; *review*; priority journal
SECTION HEADINGS:
016 *Cancer*
025 Hematology
026 Immunology, Serology and Transplantation
037 Drug Literature Index

14/3,K/3 (Item 2 from file: 73)
DIALOG(R)File 73:EMBASE

11066652 EMBASE No: 2001085694
Tolerance and autoimmunity
Kamradt T.; Avrion Mitchison N.
Dr. T. Kamradt, Deutsches Rheumaforschungszentrum, Schumannstr. 21/22, 10117 Berlin Germany
AUTHOR EMAIL: kamradt@drfz.de
New England Journal of Medicine (NEW ENGL. J. MED.) (United States)

01 MAR 2001, 344/9 (655 4)
CODEN: NEJMA ISSN: 0028-4793
DOCUMENT TYPE: Journal ; Review
LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 151

DRUG DESCRIPTORS:
...compound--ec; Fas antigen--endogenous compound--ec; FAS ligand --endogenous compound--ec; cytotoxic T lymphocyte antigen 4--endogenous compound--ec; B7 antigen--endogenous compound--ec; *CD86* antigen --endogenous compound--ec; CD28 antigen--endogenous compound--ec; cytokine --endogenous compound--ec; vaccine--drug therapy--dt; beta interferon--drug therapy--dt; *tumor* necrosis factor alpha antibody--drug therapy--dt
MEDICAL DESCRIPTORS:
T lymphocyte; B lymphocyte; autoimmunity; antigen presentation; clonal anergy; thymus; genetic susceptibility; immunomodulation; *immunotherapy*; stem cell transplantation; immunization; multiple sclerosis--drug therapy --dt; multiple sclerosis--etiology--et; rheumatoid arthritis--drug therapy --dt; rheumatoid arthritis--etiology--et; Crohn disease--drug therapy--dt; Crohn disease--etiology--et; human; nonhuman; *review*; priority journal

14/3,K/4 (Item 3 from file: 73)
DIALOG(R)File 73:EMBASE

10534678 EMBASE No: 1999419954
The use of costimulatory molecules B7.1 and B7.2 for *cancer* *immunotherapy*
Alexander I.; Smythe J.
I. Alexander, Gene Therapy Research Unit, New Children's Hospital, Children's Medical Res. Inst., Parramatta, NSW Australia
Cancer Forum (CANCER FORUM) (Australia) 1999, 23/2 (109-113)
CODEN: CAFOD ISSN: 0311-306X
DOCUMENT TYPE: Journal; Review
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 49

The use of costimulatory molecules B7.1 and B7.2 for *cancer* *immunotherapy*

In the last 30 years significant advances in *cancer* survival have been achieved through incremental improvements in the conventional therapeutic modalities of surgery, radiotherapy and chemotherapy. Of current concern however, is the now slowing rate of improvement in *cancer* treatment and outcomes. Accordingly, there is a pressing need to develop new therapeutic strategies, and recent advances in genetic technology coupled with fundamental insights into immune system function have provided renewed prospects for *cancer* *immunotherapy*. Among the most promising immunotherapeutic strategies is the use of the costimulatory molecules B7.1 and B7.2 to augment anti-*tumour* immune responses. Genetic modification of *tumour* cells to express these costimulatory molecules is thought to allow *tumour* cells to directly stimulate antigen-specific anti-*tumour* T-lymphocytes, thereby reducing reliance upon the cross-priming of host antigen presenting cells (APC) with *tumour* antigen. While the exact mechanisms by which this strategy works remain to be elucidated, strong empirical evidence of efficacy has been generated in murine *tumour* model system and with human cells in vitro. As a result, current efforts are focused on better understanding the complex cellular and molecular interactions governing...
DRUG DESCRIPTORS:
**cd86* antigen; *b7 antigen
tumor antigen
MEDICAL DESCRIPTORS:
**cancer* *immunotherapy*
cancer survival; cytokine production; genetic engineering; t lymphocyte;

antigen presenting cell; nal anergy; apoptosis; human; an cell;
review
SECTION HEADINGS:
  016 *Cancer*
  026 Immunology, Serology and Transplantation

14/3,K/5 (Item 4 from file: 73)
DIALOG(R)File 73:EMBASE

07059341 EMBASE No: 1997341197
Dendritic cells: Unique leukocyte populations which control the primary immune response
  Hart D.N.J.
  Dr. D.N.J. Hart, HIT Medicine Research Group, Canterbury Health Laboratories, PO Box 151, Christchurch New Zealand
  Blood (BLOOD) (United States) 1997, 90/9 (3245-3287)
  CODEN: BLOOA ISSN: 0006-4971
  DOCUMENT TYPE: Journal; Review
  LANGUAGE: ENGLISH
  NUMBER OF REFERENCES: 545

DRUG DESCRIPTORS:
Fc receptor; b7 antigen; cd24 antigen; cd40 antigen; *cd86* antigen; cell adhesion molecule; chemokine; cytokine; cytokine receptor; leukocyte antigen; major histocompatibility antigen; tissue antigen; transcription factor; *tumor* antigen; virus antigen
MEDICAL DESCRIPTORS:
**cancer*--therapy--th; *dendritic cell; *immune response
allergy; antigen expression; antigen presentation; autoimmunity; *cancer* *immunotherapy*; human; human immunodeficiency virus infection; hypersensitivity; immune deficiency; infection; macrophage; nonhuman; priority journal; *review*; t lymphocyte activation; transplantation; vaccination

14/3,K/6 (Item 5 from file: 73)
DIALOG(R)File 73:EMBASE

06712524 EMBASE No: 1996377480
Gene-modified *tumor* cells as cellular vaccine
  Basker S.
  Department of Biological Sciences, Univ. of Maryland Baltimore County, 1000 Hilltop Circle,Baltimore, MD 21250 United States
  Cancer Immunology Immunotherapy (CANCER IMMUNOL. IMMUNOTHER.) (Germany) 1996, 43/3 (165-173)
  CODEN: CIIMD ISSN: 0340-7004
  DOCUMENT TYPE: Journal; Conference Paper
  LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

Gene-modified *tumor* cells as cellular vaccine

The identification and characterization of many *tumor* antigens and the parallel explosion of knowledge of the cellular and molecular mechanisms of antigen recognition by the immune system have given renewed hopes that immunogenetherapy could be a promising modality to treat certain tumors. Many different novel strategies have been developed to derive genetically modified *tumor* cells and use them as cellular vaccines to induce useful antitumor immunity in a variety of animal *tumor* models. This *review* discusses induction of *tumor* immunity by injecting *tumor* cells that are genetically engineered to secrete various cytokines and to express major histocompatibility complex molecules and/or costimulatory molecules. While there has been a great success in inducing excellent antitumor immunity in a variety of *tumor* models, there are some difficulties and limitations in